Question Paper
ANMC Mock Test Class 7 - Algebra (Paper 3)

Exam ID : TEST/2024/01/05134455 Report Generation Date : 3/26/2024 3:02:14 PM

Q1: If x + 1/x + 2 = 0 then the value of (x+3)2 + 1/(x+3)2 is:

A: 4

B: 4 3/4

C: 4 1/4

D: 4 1/2

Answer: C

Q2: If a – 3b = 2, then the value of (a3 - 27b3 - 18ab) is:

A: 6

B: 8

C: 9

D: 7

Answer: B

Q3: If a = 26, b = 27 and c = 29 then find a3 + b3 + c3 - 3abc.

A: 536

B: 438

C: 648

D: 574

Answer: D

Q4: If a + b + c = 4 and a2 + b2 + c2 = 10 and 1/a + 1/b + 1/c = 1 then find abc.

A: 5

B: 3

C: 4

D: 6

Answer: B

Q5: If x = -5, y = -3, then the value of x3 - 3x2 + 3x + 3y + 3y2 + y3 is:

A: 224

B: -224

C: 230

D: -230

Answer: B

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Q6: If x2 + 6x + 1 = 0, then find x2 + 1/x2

A: 34

B: 36

C: 38

D: 40

Answer: A

Q7: If x + 1/x = 3 then the value of x3 - 1/x3 is:

A: sqrt(5)

B: 8 sqrt(5)

C: 27

D: 30

Answer: B

Q8: If (p - q) = 7 then what is the value of (p - 24)3 - (q - 17)3?

A: 0

B: 1

C: -3

D: -1

Answer: A

Q9: If a3 + b3 = 210 and a + b = 30, then the value of (a2 + b2 - ab) is:

A: 7

B: 4

C: 8

D: 5

Answer: A

Q10: If x + y + z = 7 and x2 + y2 + z2 = 41 then find the value of (x3 + y3 + z3 - 3xyz)1/2

A: 16

B: 2591/2

C: 2551/2

D: 17

Answer: B

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Q11: If 81a4 + 225a2b2 + 625b4 = 85 and 9a2 + 15ab + 25b2 = 17 then find the value of 3a+5b.

A: 241/2

B: 251/2

C: 261/2

D: 231/2

Answer: D

Q12: If 1 – 512x3 – 24x + (184 + a)x2 = (1 – ax)3 then find the value of a.

A: 64

B: 6

C: 8

D: 16

Answer: C

Q13: If a + b + c = 21, then find the value of
(a – 3)3 + (b – 6)3 + (c – 12)3 – 3(a – 3)(b – 6)(c – 12) + 1

A: 0

B: 2

C: -2

D: 1

Answer: D

Q14: If (x + y) = 1 and (3/x) – 3y = 6/x then find the value of x2 + y2

A: 4

B: 2

C: 3

D: 1

Answer: C

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Q15: If a2 + b2 + c2 = 29 and ab + bc + ca = 10 then find the value of (1/2)(a + b + c)[(a – b)2 + (b – c)2 + (c – a)2]

A: 132

B: 133

C: 130

D: 135

Answer: B

Q16: Simplify: (a + b)3 + (a – b)3 -2a3- 5ab2

A: ab

B: ab3

C: ab2

D: a2b

Answer: C

Q17: If a3 + b3 = 160 and a + b = 10 then find the value of (a – b)2 + ab

A: 12

B: 16

C: 17

D: 15

Answer: B

Q18: Simplify: a/(a-b) + b/(b-a) – 1

A: -2

B: 0

C: 1

D: 3

Answer: B

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Q19: If x + 1/x = 1 then find the value of (x9 + 1/x9)3

A: – 8

B: 8

C: 1

D: – 1

Answer: A

Q20: If a3 + b3 = 45 and a + b = 3 then find the value of a2 + b2

A: 13

B: 16

C: 15

D: 12

Answer: A

Q21: If x + y + z = 8 and x2 + y2 + z2 = 36 then find the value of x3+y3+z3–3xyz

A: 152

B: 164

C: 176

D: 182

Answer: C

Q22: Simplify: (a + 2b – c – d)2 – (3a – b + c – d)2 + 8a2 – 3b2 – 10ab + 2bc – 4cd + 8ac – 4ad + 6bd

A: 1

B: 2

C: 0

D: 4

Answer: C

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Q23: If a + b + c = 46, then find the value of :
(a – 15)3 + (b – 14)3 + (c – 17)3 – 3(a – 15)(b – 14)(c – 17)

A: 2

B: 0

C: – 2

D: 1

Answer: B

Q24: If x4 + x–4 = 47 then find the value of (x – x–1)

A: 0

B: 5

C: 1

D: (5)1/2

Answer: D

Q25: If a2 + b2 + c2 = 112 and ab + bc + ca = 16 then find the value of:
(1/2)(a + b + c)[(a – b)2 + (b – c)2 + (c – a)2]

A: 1152

B: 1154

C: 1156

D: 1150

Answer: A

Q26: If (x + y)2 = 544 and xy = 16 then find the value of 1/x2 + 1/y2

A: 1

B: 4

C: 3

D: 2

Answer: D

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Q27: If x + 1/x + 2 = 0 then the value of (x+2)2 + 1/(x+2)2 is:

A: 4

B: 2

C: 3

D: 1

Answer: B

Q28: If (a – b) = 3, (b – c) = 6 and (c – a) = – 9 then the value of:
(a3+b3+c3 – 3abc)/(a+b+c) is:

A: 51

B: 74

C: 63

D: 78

Answer: C

Q29: If a+b+c =10, ab+bc+ca = 40, a3+b3 = 71, b3+c3 = 82 and c3+a3 = 69 then what is the value of 3abc?

A: 333

B: 315

C: 311

D: 301

Answer: C

Q30: If a = 156, b = 160 and c = 150 then find a3+b3+c3–3abc.

A: 35402

B: 35424

C: 35420

D: 35416

Answer: D